



# **Chapter 5:** **Goals and Performance Measures**

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# 5

The FAST Act continues MAP-21's focus on performance based transportation planning, and outlines goals for which State DOT's, MPOs, and local road agencies should be held accountable for during the development and maintenance of the federally funded transportation system. Performance Based Planning and Programming (PBPP) attempts to ensure that both long-term and short-term transportation investment decisions are made based on their ability to meet established goals for improving the overall transportation system. Furthermore, it involves measuring progress toward meeting goals and using information on past and anticipated future performance trends to inform investment decisions.

## National Goals

The current transportation legislation outlines seven (7) national goals for which state DOTs and transit agencies, in cooperation with MPO's should establish targets for performance measures.

- Safety - to achieve a significant reduction in traffic fatalities and serious injuries on all public roads
- Infrastructure Condition - to maintain the highway infrastructure asset system in a state of good repair
- Congestion Reduction - to achieve a significant reduction in congestion on the National Highway System
- System Reliability - to improve the efficiency of the surface transportation system

- Freight Movement and Economic Vitality - to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
- Environmental Sustainability - to enhance the performance of the transportation system while protecting and enhancing the natural environment
- Reduced Project Delivery Delays - to reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

## Federal Performance Measures and State Targets

Reflecting the above goals, are national performance measures for which to track progress:

Area	Measures
Safety	<ul style="list-style-type: none"> <li>• Number of fatalities and serious injuries</li> <li>• Rate of fatalities and serious injuries</li> <li>• Number of non-motorized fatalities and serious injuries</li> </ul>
Pavement and Bridge Condition	<ul style="list-style-type: none"> <li>• Percent Interstate pavement in good and poor condition</li> <li>• Percent Non-Interstate NHS pavement in good and poor condition</li> <li>• Percent National Highway System (NHS) bridges in good and poor condition</li> </ul>

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Area	Measures
System Performance	<ul style="list-style-type: none"> <li>Interstate and Non-Interstate travel time reliability</li> <li>Truck travel time reliability</li> </ul>
Congestion Mitigation and Air Quality	<ul style="list-style-type: none"> <li>Peak Hour Excessive Delay</li> <li>Non-Single Occupancy Vehicle (SOV) Travel</li> <li>On-Road Mobile Source Emissions</li> </ul>
Transit Asset Management	<ul style="list-style-type: none"> <li>Transit Asset Management (TAM) Plans</li> <li>State of Good Repair Measures</li> <li>Percent of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)</li> <li>Public Transportation Agency Safety Plans</li> </ul>

MPO's are required to establish targets for the above performance measures by either agreeing to plan and program projects so that they contribute toward the accomplishment of the relevant State DOT target for the performance measure, or commit to a quantifiable target for that performance measure for their metropolitan planning area. MACOG has elected to support INDOT's established targets and are evaluating the inclusion of additional regional targets in the future.

## Safety

INDOT, the MPOs, FHWA, and the Indiana Criminal Justice Institute (ICJI) collaborated on the Safety Performance Measures and Safety Performance Targets, which were set in 2018. The Highway Safety Improvement Program (HSIP) is a primary source of federal funds for qualifying safety improvement projects. HSIP along with other funding sources are used to implement

safety improvements with the purpose to reduce roadway crashes, and a corresponding reduction in fatalities and serious injuries on all public roads and directly supports the Indiana Strategic Highway Safety Plan.

2019 Safety Targets	
Number of Fatalities	889.6
Fatality Rate (per 100M VMT)	1.087
Number of Serious Injuries	3,501.9
Serious Injury Rate (per 100M VMT)	4.234
Number of Non-Motorized Fatalities and Serious Injuries	393.6

MACOG will contribute to the achievement of these targets by:

- Working with local road and transit agencies to identify problematic areas in the region for which to improve safety
- Reviewing crash reports submitted to the Indiana State Police for accuracy and analysis
- Support training for Traffic Incident Management and first responders
- Promote driver education through DriveSafeMichiana.com
- Support communities in the completion of ADA Transition Plans

## Pavement and Bridge

The pavement and bridge condition performance measures are applicable to the Interstate and non-Interstate Highways that comprise the National Highway System (NHS). The NHS includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility. The measures are focused on the condition of pavement and bridges, including ramps utilized to access the system and directly support the Indiana Transportation Asset Management Plan (TAMP). There are four measures to assess pavement condition and two measures for assessing

bridge condition. INDOT, the MPO's, and FHWA collectively developed targets for the pavement and bridge performance measures. The National Highway Performance Program is a core Federal-aid highway program that provides financial support to improve the condition and performance of the NHS, and the construction of new NHS facilities. INDOT utilizes these funds for maintenance activities on the NHS.

Pavement Condition Targets		
	2- year	4-year
Percent of Interstate Pavements in Good Condition	84.24	84.24
Percent of Interstate Pavements in Poor Condition	0.8	0.8
Percent of Non-Interstate NHS pavements in Good Condition	78.71	78.71
Percent of Non-Interstate NHS pavements in Poor Condition	3.1	3.1

Bridge Condition Targets		
	2- year	4-year
Percent of NHS bridges by deck area classified in Good Condition	48.32	48.32
Percent of NHS bridges by deck area classified in Poor Condition	2.63	2.63

MACOG will contribute to the achievement of these targets by:

- Sharing resources related to design and engineering best practice
- Support local jurisdictions through the collection of PASER ratings and development of local asset management plans
- Develop and maintain a bridge inventory for assessment and recommendations regarding bridge conditions

## System Performance

The system performance measures are also applicable to the Interstate and non-Interstate NHS. These performance measures assess system reliability and freight movement. This is measured using data from FHWA's National Performance Management Research Data Set (NPMRDS), and is the ratio of longer travel times (80th percentile) to normal travel times (50th percentile). Truck Travel Time Reliability is calculated in a similar fashion, however longer travel times are found using the 95th percentile travel time.

Travel Time Reliability Targets		
	2- year	4-year
Level of Travel Time Reliability on Interstates	90.5	92.8
Level of Travel Time Reliability on non-Interstate NHS	-	89.8

Truck Travel Time Reliability Targets		
	2- year	4-year
Truck Travel Time Reliability on Interstates	1.27	1.24

MACOG will contribute to the achievement of these targets by:

- Conducting travel time studies of major corridors to evaluate congestion and traffic flow
- Utilize the Travel Demand Model to forecast future congestion and assist communities in evaluating project effectiveness
- Assist in sharing resources between local jurisdictions and first responders

## Congestion Mitigation and Air Quality

Several measures related to congestion mitigation and air quality have been identified including non-Single Occupancy Vehicle (SOV) travel and annual hours of peak hour excessive delay per capita, as well as on-Road Mobile



emissions. Currently this rule only applies to urbanized areas of more than 1 million in population that are in nonattainment or maintenance areas for ozone, carbon monoxide or particulate matter. Starting in 2022, areas of population of more than 200,000 are required. States and MPOS for which this applies will coordinate on a single, unified target. There are no targets that relate to MACOG for these performance measures at this time.

On-Road Mobile Source emissions is another performance measure established for the Congestion Mitigation and Air Quality (CMAQ) program, and applies to State DOT's with areas designated as nonattainment or maintenance for ozone, carbon monoxide, or particulate matter.

On-Road Mobile Source Targets		
	2- year	4-year
<b>CMAQ volatile organic compounds</b>	1,600	2,600
<b>CMAQ carbon monoxide (CO)</b>	200	400
<b>CMAQ oxides of nitrogen (NO)</b>	1,600	2,200
<b>CMAQ project reduction particulate matter less than 10 microns (PM10)</b>	0.3	0.5
<b>CMAQ project reduction particulate matter less than 2.5 microns (PM2.5)</b>	20	30

MACOG will contribute to the achievement of these targets by:

- Continuing the Clean Air Program to education citizens and business about air quality.
- Working with local jurisdictions to identify CMAQ eligible projects.

### *Transit Asset Management (TAM) and Public Transportation Safety Program*

Under the TAM Final Rule, FTA established four performance measures to approximate the State of Good Repair (SGR) for categories of capital assets including rolling stock, equipment and facilities. These targets are

included in Transit Asset Management Plans which provides an overview of the strategic and systematic practices that transit providers put forth to ensure proper management of public transportation capital assets. MACOG administers the Interurban Trolley in Elkhart and Goshen, and coordinates with other transit providers including the South Bend Public Transportation Corporation (Transpo) to ensure targets are set for applicable assets.

Transit Asset Management Targets			
Asset Category	Asset Class		2018 Target
<b>Rolling Stock Age - % of revenue vehicles that have met or exceeded their Useful Life Benchmark (ULB)</b>	Automobile	Transpo	50%
	Bus	Transpo	45%
		Interurban Trolley	0%
	Cutaway Bus	Transpo	40%
	Mini-Van	Interurban Trolley	20%
<b>Equipment Age- % of non-revenue vehicles that have met or exceeded their Useful Life Benchmark (ULB)</b>	Steel Wheel Vehicles	Transpo	50%
<b>Facilities Condition - % of facilities with a condition rating below 3 on the FTA Transit Economic Requirement Model (TERM) Scale</b>	Admin.	Transpo	0%
	Maintenance		0%
	Parking Structures		0%
	Passenger Facilities		0%

In 2016, a final rule was published for the Public Transportation Safety Program, establishing substantive and procedural rules for enforcement of FTA's safety programs. The Public Transportation Agency Safety Plan (PTASP) Final Rule requires public transportation agencies to develop safety plans based on Safety Management Systems (SMS) principals, and

must be completed by July 2020. SMS is an organizational approach to managing safety and includes four components including a safety management policy, safety risk management, safety assurance, and safety promotion.

## **Locally Established Performance Measures**

MACOG recognizes that there are additional goals that are not fully addressed by Federal performance measures, including but not limited to those related to economic vitality, active transportation, equity and quality of life. Because of this, following the adoption of this plan, MACOG will expand upon these goals and establish regional measures to better reflect the values, needs, and conditions of the transportation network in the MACOG region.